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REMARKS

In the pending Office Action, Examiner Cumberledge initially rejected all of the pending claims over U.S. Patent No. 5,669,910 to Korhonen, by itself or in combination with U.S. Patent No. 6,554,852 to Shluzas and U.S. Patent No. 5,976,135 to Sherman. The bases for the rejections are not fully understood, but as explained below, the claims are allowable over these references. It is respectfully requested that this application be reconsidered in light of the following remarks.

The Office Action alleged that the Korhonen reference anticipated claims 1-12, 16-23, 29-34, 43-53 and 58. This rejection should be withdrawn because the Korhonen reference does not include all elements of any of the rejected claims.

Independent claim 1 recites, among other things, a first rod connector including a first shaft and a projection extending laterally from the shaft. The first shaft and the projection are received in the aperture of the recited interconnection member. The Office Action suggested that item 18 of the Korhonen reference shows the first rod connector of the claim, and on its page 8 it reproduced Korhonen's Figure 4. In that reproduction, it is not clear whether the Examiner considers the entirety of item 8 to be a "first shaft," or whether he considers the hole 20 to be a shaft (akin to an elevator shaft). Respectfully, both of those views incorrectly compare the Korhonen device to the present claim. The specification and claims clearly indicate that the "first shaft" of claim 1 is a male member, and thus a hole in Korhonen's item 18 cannot disclose a "first shaft" as in the claim. Further, treating the entirety of Korhonen's item 18 as both the "first rod connector" and the "first shaft" of claim 1 is not logical. For an anticipation, not only must all of the claimed features be shown, but they must be shown arranged as the claim recites. MPEP 2131. The claim recites a first connector "including" a shaft that terminates in a rod

engaging portion, and a projection that extends laterally from the shaft. The language of claim 1 makes clear that the shaft is a part of or included in the first connector. Considering the entirety of item 18 of Korhonen to be both connector and shaft does not account for the arrangement specified in the claim that the shaft is less than the whole of the connector.

Moreover, if the block portion of item 18 of Korhonen were considered a "shaft" as in claim 1 and item 24 were considered a "projection," it is clear that item 24 extends longitudinally from the block portion, rather than laterally as claim 1 recites. There is only one direction that the person of ordinary skill could consider to be "longitudinal" (i.e. along the length of the device) from a reasonable viewing of Figure 4 of Korhonen, and that is along an axis through the center of the whole device, from the end surface of item 18 through item 30 and the far end surface of item 28. The Korhonen reference clearly defines "longitudinal" in that way, describing "rails" 44 on either side of space 36 to be longitudinal. See Korhonen, column 4, lines 10-12; see also claim 1 of Korhonen. Column 2, lines 15-30 describe "lateral" movement of parts relative to each other as "vertically placed or top loaded" and contrast such movement with longitudinal movement of the "cap along the connector body." Accordingly, based on the disclosure of Korhonen and the common meaning of "longitudinal," item 24 of Korhonen cannot be considered to extend laterally from the block part of item 18.

It is also noted that claim 1 recites that both the shaft and the projection are received in the aperture of the interconnecting member. In Korhonen, only item 24 is inserted into item 30. No part of the block of item 18 is inserted into item 30. This arrangement of parts in the claim is absent from the Korhonen reference. The statement in the Office Action regarding functional statements is respectfully requested to be reconsidered, since it is axiomatic that functional

statements must be considered in assessing patentability. See, e.g., *In re Ludtke*, 411 F.2d 660 (CCPA 1971).

Turning to independent claim 44, it is not clear whether the Office Action believes claim 44 to be anticipated, because its analysis under section 103 states quite clearly that Korhonen does not include an "insert," which is recited in claim 44. In any event, reasoning similar to the above is also applicable. The claim recites a second rod connector, which has a second shaft. The shaft has a rod engaging portion on one end and a body on the other end. Item 28 of Korhonen, if it is compared in its entirety to that second rod connector, cannot also be compared in its entirety to the shaft that is a part of it. Further, there is no male shaft in item 28, but only an open housing defining opening 38. It would also appear that the Office Action misunderstood the reference to the first aperture being positioned to lie in a plane with the longitudinal axis, and perhaps considered that it was the first central axis that was to lie in a plane with the longitudinal axis. That clarification has been made in claim 44, as noted above, and it is not believed to narrow the scope of claim 44. Opening 38 in Korhonen is perpendicular to the axis through item 24a, and the plane defined by opening 36 lies above that axis. For at least these reasons, claim 44 is not anticipated by Korhonen.

Independent claim 53 recites a second spinal rod connector having a second body on one end, a rod engaging portion on the other end, and a shaft extending between them. The remarks above regarding claims 1 and 44, in which it is shown that the treatment of items 18 and 28 of Korhonen as both the main piece and the component of that piece is not appropriate, are equally applicable to claim 53. Further, it is noted that Korhonen does not show a shaft portion between a rod engaging portion and a body. If the Office Action considers the block portion of item 28 to be the rod engaging portion, and item 29 to be the body, there clearly is no shaft between them.

If the Office Action considers item 29 to be the shaft, then there is no body at the far end of item 29.

For at least the above reasons, and perhaps others, the Korhonen reference does not anticipate claims 1 or 44. Claims 2-12, 16-23, and 29-34 depend from claim 1, independent claim 43 recites the apparatus of claim 1, and claims 45-51 depend from claim 44, and thus they are not anticipated as well. Many of those claims are also allowable over Korhonen on their own merit. For example, claim 2 recites that the aperture in the interconnection element defines an axis, and the stud is substantially orthogonal to that axis. The Office Action defines the longitudinal hole near number 46 in Figure 4 of Korhonen as that aperture, because item 24 is inserted into it. However, that longitudinal hole is clearly not orthogonal to item 24a, but appears instead to be coaxial with it. Claim 5 recites that the first rod connecting portion includes a curved member to at least partially encircle a spinal rod. Item 18 of Korhonen has a rectangular solid block that accommodates a spinal rod, not a curved member. The Office Action referred to Figure 1 in addressing this subject matter, but no curved members are seen in Figure 1, only the rectangular solid. Respectfully, the presence of a circular hole 23 in a rectangular solid does not make the rectangular solid a curved member. Indeed, claim 6 recites a threaded aperture extending into the curved member, and thus the "curved member" of claim 5 must be considered apart from that aperture. Claims 8, 9 and 46 recite that the shafts are curved, and the Office Action apparently considers item 18 and 28 as both straight and curved. It is not believed that interpretation is correct, and that the person of ordinary skill would not see items 18 or 28 as curved. Although unnecessary to the allowability of claim 8 and does not necessarily narrow it, claim 8 is being amended to recite that the shaft is curved so as to be non-linear. Claim 48 recites that a fastener engages both the recited insert and the first shaft. These and

other claims dependent from claim 1 are not anticipated by Korhonen, by virtue of that dependence and/or on their own merit.

The Office Action further rejected claims 1-12, 16-23, 29-36 and 39-58 as allegedly obvious over the Korhonen reference in light of the Shluzas reference. This rejection is not understood, insofar as the Examiner asserted that all of those claims except 35-36 and 54-57 were anticipated by Korhonen, yet expressed that there were features in those claims missing from Korhonen. As discussed above, the Korhonen reference does not show elements of claims 1-12, 16-23, 29-34, 39-53 and 57, and no showing has been made as to how the Shluzas reference fills the gaps in the Korhonen reference consistent with a proper *prima facie* case of obviousness.

The Office Action does not present a proper motivation for combining the Korhonen and Shluzas reference. It is axiomatic that even if the teachings of references can be combined, a case of obviousness is not made without a proper motivation and a showing of the desirability and reasonable expectation of success of the combination. In the present case, the Office Action suggests that a motivation would be "to allow the connecting rod to pivot . . . and conform to the specific area of the spine that is being stabilized." Respectfully, that motivation comes from the present application. The Office Action cites to column 2, lines 36-39 of Shluzas, but that section states only the rotatable and pivotable capability but does not state any particular advantage or reason for making other devices in that fashion. Without such a teaching, there is not motivation to combine and no indication of the desirability of making the proposed changes. Moreover, adding the ball 48 of Shluzas would not provide a pivotable structure and would not be possible with the structure of Korhonen. As seen in Korhonen's drawings, the opening 38 is of one size, and insertion of a ball 48 having a larger diameter (as seen in Shluzas) would not be possible.

Such a ball would be constricted about item 24a, preventing longitudinal movement of item 24a. Alternatively, the ball would not be movable into opening 38, limiting or negating the ability of the Korhonen device to get longer or shorter. The Office Action's statement that the ball 48 of Shluzas restricts movement of a shaft is also seen to be incorrect, as Shluzas itself notes the importance of having its item 42 move through its item 48. See Shluzas, column 2, lines 39-43 (noting the rod 42 being slidable relative to ball 48 for positioning in any of several longitudinal positions). Respectfully, the only motivation to combine Shluzas into Korhonen appears from the present application. It is apparent that the Korhonen reference would not work as intended if modified with the Shluzas ball, and that benefits from the Shluzas ball, if any, would also be lost.

In another obviousness rejection, the Office Action initially rejected all of the pending claims 1-58 over a combination of the Korhonen reference as modified by the Shluzas reference and the Sherman reference. The Office Action claims that the Korhonen reference and the Shluzas reference do not show a washer as claimed in several of the claims. Initially, it is noted that most of claims 1-58 do not include a washer, and therefore this ground does not apply to most of the claims. As noted above, even if reference can be combined, a *prima facie* case of obviousness has not been made without a proper motivation to combine the references and a showing that the combination would be desirable. The Office Action merely claims that a motivation to add Sherman is "to allow the lateral connector to assume variable angular positions with respect to the washer . . . , which would be beneficial with the ball and socket joint of Schluzas [sic]." This is a circular argument, however. It presumes the presence of a washer, which can only be present if the Sherman reference is added in. In other words, the argument for adding Sherman in depends on having Sherman's washer in the structure. That logic cannot support inclusion of the Sherman reference. Moreover, the recited part of the Sherman reference

(column 7, lines 1-19) discuss only that the splines on the washer allow variable positioning of the Sherman device. Korhonen already provides that its part 18 can rotate and assume variable rotatory positions with respect to its part 28. The inclusion of the new part of a washer would make the Korhonen device much bigger and thus less useful in between spinal rods, and would not allow the part 30 to connect closely to the part 28 of Korhonen, as displayed in the Korhonen reference's drawings.

Further, even if Sherman is included with Shluzas and Korhonen, several parts of the various claims are not shown by the combination, as discussed above. For example, the particular parts and arrangement of those parts as described in claim 1, 44 and 53 are not shown in the combination of the references. Other aspects of other claims, as noted above, are also not seen in the combination of Korhonen, Shluzas and Sherman.

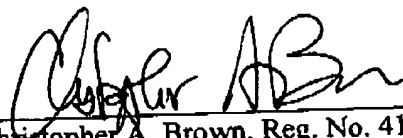
Respectfully, the pending claims are not anticipated by Korhonen, nor are they rendered obvious by a combination of the Shluzas or Sherman references with Korhonen. The alleged motivations to combine features given in the Office Action come from the present application, since the cited references merely describe the features relied on by the examiner but do not express a reason to incorporate them into other structures. Moreover, neither the cited references nor any other information of record, other than the present application, identify why it would be desirable to combine the reference or why there is any expectation of the success for the combination of the references. Because there is no *prima facie* case of obviousness for these and perhaps other reasons, the rejections based on alleged obviousness should be withdrawn.\

It should be understood that the above remarks are not intended to provide an exhaustive basis for patentability or concede the basis for the rejections in the Office Action, but are simply provided to overcome the rejections made in the Office Action in the most expedient fashion.

Further, no necessary narrowing amendments have been made, and thus it is believed that the claims should be entitled to the entire scope permitted by their language, including equivalents.

In view of the above amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and an early notice of allowance is requested. If the Examiner feels that any issues remain, the Examiner is invited to contact the Applicant's undersigned representative by telephone.

Respectfully submitted,



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